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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/666,878	09/19/2003	Evan E. Koslow	KXIN 100027000	8886
22891 7590 12/29/2008 LAW OFFICE OF DELIO & PETERSON, LLC. 121 WHITNEY AVENUE 3RD FLOR NEW HAVEN, CT 06510				
EXAMINER				
FORTUNA, JOSE A				
ART UNIT		PAPER NUMBER		
1791				
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12/29/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/666,878

Applicant(s)

KOSLOW, EVAN E.

Examiner

José A. Fortuna

Art Unit

1791

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 November 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7, 9-12, 14, 16-20, 22, 24 and 42-47 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7, 9-12, 14, 16-20, 22, 24 and 42-47 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

2. Claims 1, 4-7, 9-12, 20, 22, 24 and 42-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Giglia, US Patent No. 4,929,502 in view of Sawan et al., US Patent Nos. 5,817,325 or 5,681,468 as further evidenced by Palmer et al., US Patent No. 6,406,594.

Giglia teaches an integrated paper comprising fibrillated fibers and a particle

immobilized therein, see abstract. Giglia teaches that the paper can be formed using the wet lay technique, resulting in a novel absorbent fabric, having a caliper between of at least 0.005 inch, high absorptive capacity to weigh ratio and high porosity to fluid flow, column 6, lines 38-44. Giglia also teaches that the paper can be used to make filters or combined with another filter surface, e.g., a carbon block, column 7, lines 14-22. Giglia teaches the same type of fibers as claimed and the same particles including the size of such particles, column 6, lines 33-37. Giglia teaches the use of particles either to adsorb toxic gases or as microorganisms control and teaches the use of activated carbon particles as the preferred particles. Even though Giglia does not teach the pore size of the paper as claimed, this property seems to be inherent to the paper taught by the reference, since they are made using the same process and using the same raw materials as claimed, or at least the minor modification to obtain the pore size in the range as claimed would have been obvious to one of ordinary skill in the art as an optimization of a result effective variable. Note that it has been held that "[T]he discovery of an optimum value of a result effective variable in a known process is ordinarily within the skill of the art. *In re Antoine*, 559 F.2d 618, 195 USPQ 6 (CCPA 1977); *In re Aller*, 42 CCPA 824, 220 F.2d 454, 105 USPQ 233 (1995).

Giglia teaches the filter medium including the integrated paper as claimed. However, he fails to teach the interception-enhancing agent as claimed. However, Sawan et al., in both Patents, teach the same interception enhancing agent, see the US'325, column 8, lines 45-68 and US'468, column 7, line 64 through column 8, line 36. Sawan et al. teach the advantages of using such interception agents, i.e., the formulation kills microorganisms

on contact without leaching from the matrix, see abstract of the US'325 and columns 7-8 of the US'468. Therefore, using the interception agents as taught by Sawan et al., in both patents, as the antimicrobial agent on Giglia et al. filter medium would have been obvious to one of ordinary skill in the art in order to obtain the advantages discussed above. Moreover, one of ordinary skill in the art would have reasonable expectation of success if the antimicrobial agents taught by Sawan et al., both patents, were used as antimicrobial agents on Giglia et al. filter/membrane. Note that Giglia teaches the use of antimicrobial agents on their filter medium and it has been held that "[W]here two equivalents are interchangeable for their desired function, substitution would have been obvious and thus, express suggestion of desirability of the substitution of one for the other is unnecessary." In re Fout 675 F. 2d 297, 213 USPQ 532 (CCPA 1982); In re Siebentritt, 372 F.2d 566, 152 USPQ 618 (CCPA 1967).

- Note that Sawan et al. teach that adding the interception agent can be done either by producing it, i.e., making it first, and then adding to the substrate or can be formed *in situ* in the substrate, see for example, column 4, lines 11-19 of the US'325 or column 4, lines 18-24; column 9, lines 16, of the US'468, where they specifically teach that the article is first contacted with the carbonyl compound and then contacted with a metal salt solution as to deposit the metal on the surface of the article, reproduced for below, (EMPHASIS ADDED).

"In methods of the invention a surface and pores of a filter are coated with a metal. In one embodiment, a filter having pores is provided, *the filter is contacted with a carbonyl compound, the filter is dried, and the dried filter is contacted with a metal salt solution or metal carboxylate salt solution and an amine-containing compound solution so as to deposit the metal on the surface and within a plurality of the pores.* In one

embodiment, this filter is then washed and dried. The filter can be any of the filters described above.”

It is clear from the teachings that deposition of the metal, refers to the precipitation of the metal in the surface of the article or within its pores. The latter is more clearly taught by the US'468 on column 9, lines, 34-41, reproduced below, which teaches that the carbonyl compound acts as a reducing agent, so that the metal ion is reduced to the metal, i.e., precipitates, (EMPHASIS ADDED):

“The carbonyl compound acts as a reducing agent, so that the metal ion is reduced to the metal, e.g., silver ion is reduced to metallic silver. This electroless redox reaction occurs in situ in solution or in the solid state. The carbonyl compound has affinity for aqueous and non-aqueous phases and therefore can be used in the process of coating either hydrophilic or hydrophobic filters.”

Note that that the precipitation of additives onto papermaking fibers is known for loading the fibers with calcium carbonate, but other(s) precipitated minerals/fillers/pigments as evidenced by US Patent No. 6,406,594.

3. Claims 2-3, 14 and 16-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Giglia, US Patent No. 4,929,502 in view of Sawan et al., US Patent Nos. 5,817,325 or 5,681,468 as applied to claims 1, 4-7, 9-12, 20, 22, 24 and 42-47 above, and further in view of “Complete Textile Glossary” by Celanese Acetate LLC¹.

Giglia’s invention has been discussed above. Giglia fails to teach the use of lyocells as the synthetic fibers used to make the paper(s). However, the Celanese publication above teaches the benefits of using lyocells for making porous webs, e.g., Lyocell fiber is suitable for blending with cotton or other manufactured fibers. Because of its molecular

structure, lyocell has the tendency to develop surface fibrils that can be beneficial in the manufacture of hydroentabled and other nonwovens, and in specialty papers. For apparel uses, the fiber's unique fibrillation characteristic has enabled the development of fabrics with a soft luxurious hand. The degree of fibrillation is controlled by cellulose enzyme treatment. Therefore, the use of such fibers, lyocell fibers, to substitute the synthetic fibers, specifically the acrylic fibers taught by Giglia, would have been obvious to one of ordinary skill in the art in order to obtain the benefits indicated above. Note that one of ordinary skill in the art would certainly recognize the easiness of the fibrillation of the lyocells fibers and the environmental friendliness of the lyocells fibers as oppose the synthetic fabrics suggested by Giglia. Moreover, it has been held that "[W]here two equivalents are interchangeable for their desired function, substitution would have been obvious and thus, express suggestion of desirability of the substitution of one for the other is unnecessary." In re Fout 675 F. 2d 297, 213 USPQ 532 (CCPA 1982); In re Siebentritt, 372 F.2d 566, 152 USPQ 618 (CCPA 1967).

Response to Arguments

4. Applicant's arguments with respect to claims 1-7, 9-12, 14, 16-20, 22-24 and 42-47 have been considered but are moot in view of the new ground(s) of rejection.
5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure in the art of "Integrated Papers."

¹ Only the pertinent page has been attached. However, the entire reference in PDF format can be downloaded from: <http://www.vectranfiber.com/fiberdictionary.pdf>.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to José A. Fortuna whose telephone number is 571-272-1188. The examiner can normally be reached on 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven P. Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/José A Fortuna/
Primary Examiner
Art Unit 1791

JAF